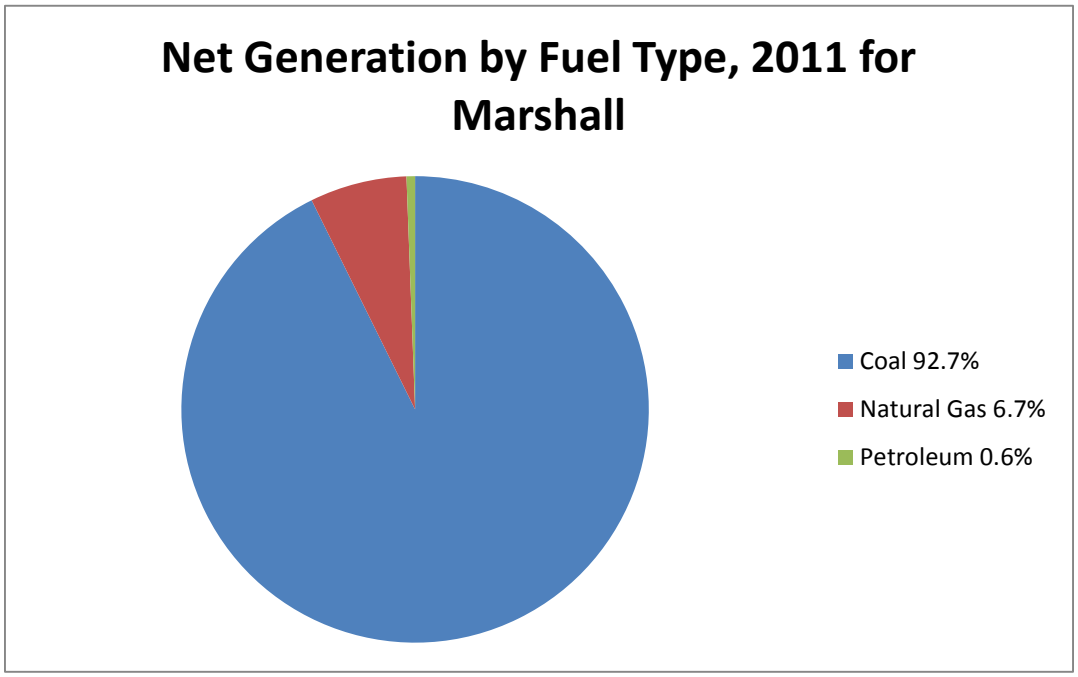
Missouri Department of Natural Resources

City of Marshall
Power Plant Name: Marshall
Electric Generation and Emissions in 2011

Generation Tables

	Fuel Consumption, MMBTUs	Percent of Total		Net Electric Power Generated, MWh	Percent of Total	
Non-renewable sources						
Coal	297,752	93.9%	93.9%	21,043	92.7%	92.7%
Natural Gas	18,045	5.7%	5.7%	1,523	6.7%	6.7%
Petroleum	1,346	0.4%	0.4%	134	0.6%	0.6%
Nuclear						
Other						
Non-renewable total	**317,143**	**100.0%**	**100.0%**	**22,700**	**100.0%**	**100.0%**
Renewable sources						
Biomass						
Hydroelectric						
Landfill Gas						
Solar						
Waste Fuels						
Wind						
Wood						
Renewable total						
Grand total	**317,143**		**100.0%**	**22,700**		**100.0%**

Fuel Type	Physical Units	Number of Units
Anthracite Coal and Bituminous Coal	Short Tons	13,355
Natural Gas	MCf	17,663
Distillate Fuel Oil	Barrels	232


Net Generation by Fuel Type, 2011 for Marshall
Coal 92.7%
Natural Gas 6.7%
Petroleum 0.6%

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Power Plant Nameplate information for Marshall

Plant Name	County Location	Generator	Generator Type	Generator Status	Nameplate Capacity (MW)
Marshall		*All Operating Generators*			*229.2*
Marshall	Saline	GT1	Combustion (Gas) Turbine (includes jet engine design)	Operating - in service	60.8
Marshall	Saline	10	Internal Combustion Engine (diesel, piston, reciprocating)	Operating - in service	25.2
Marshall	Saline	11	Internal Combustion Engine (diesel, piston, reciprocating)	Operating - in service	25.2
Marshall	Saline	7	Internal Combustion Engine (diesel, piston, reciprocating)	Operating - in service	4.0
Marshall	Saline	8	Internal Combustion Engine (diesel, piston, reciprocating)	Operating - in service	4.0
Marshall	Saline	9	Internal Combustion Engine (diesel, piston, reciprocating)	Operating - in service	4.0
Marshall	Saline	4	Steam Turbine, including nuclear, geothermal and solar steam (does not include combined cycle)	Operating - in service	24.0
Marshall	Saline	5	Steam Turbine, including nuclear, geothermal and solar steam (does not include combined cycle)	Operating - in service	66.0
Marshall	Saline	3	Steam Turbine, including nuclear, geothermal and solar	Standby / Backup	16.0

			steam (does not include combined cycle)		

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Emissions from Electricity Generated in 2011: Marshall

	CO2 Equivalent (TONS)	Carbon Dioxide (CO2) (TONS)	Methane (CH4) (TONS)	Nitrogen Dioxide (NO2) (TONS)
Marshall	1,087,339	127,274	14,539	2,112

	Sulfur Dioxide (SO2) (TONS)	Annual Nitrogen Oxide (NOx) (TONS)	Summer Nitrogen Oxide (NOx) (TONS)
Marshall	1,611	0.0000	0.0000

Identified Flue Gas Desulfurization (FGD) controls installed on Marshall power plant

Plant	Control Equipment	Sorbent Type
	No FGD Controls Installed	

Identified Flue Gas Particulate (FGP) controls installed on Marshall power plant

Plant	Control Equipment
Marshall	Baghouse, reverse air

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Notes:
Generation, emissions and pollution control data include power plants owned by the utility and located in Missouri.

Emissions data calculated by Missouri Department of Natural Resources, Division of Energy, from EIA Fuel Consumption Data

Fuel Consumption and Generation Data from United States Energy Information Administration, Form 923, United States Department of Energy
http://www.eia.gov/electricity/data/eia923

Pollution control data (FGD and FGP equipment) from United States Energy Information Administration, Form 860, United States Department of Energy
http://www.eia.gov/electricity/data/eia860/index.html

Emissions factors for fuel-based generation from United States Environmental Protection Agency "Emission Factors for Greenhouse Gas Inventories", November 7, 2011,
http://www.epa.gov/climateleadership/documents/emission-factors.pdf